

WHAT IS CLAIMED IS:

1. A process for the preparation of codeine, which comprises the steps of:
 - (a) providing a solution or suspension of a morphine component in an inert solvent or a mixture of solvents;
 - (b) methylating the resultant solution or suspension with a methylating agent in the presence of an alkaline ingredient; and
 - (c) recovering the resultant codeine as the free base or as a salt.
2. The process of claim 1 wherein the morphine component comprises a concentrate of poppy straw having a morphine content of about 50 to about 99 wt.%.
3. The process of claim 1 wherein the morphine component comprises a concentrate of poppy straw having an oripavine content of about 50 to about 99 wt.%.
4. The process of claim 1 further comprising carrying out step (a) in the presence of a single solvent system selected from the group consisting of an alcohol, a ketone, an alkyl halide, an aromatic halide, an aliphatic ether, an aromatic ether, an aliphatic hydrocarbon, and an aromatic hydrocarbon.
5. The process of claim 1 wherein the single solvent system is selected from the group consisting of methanol, ethanol, n-butanol, acetone, methylethylketone, cyclohexanone, dichloroethane, chlorobenzene, t-butylmethyl ether, anisole, hexane, cyclohexane, toluene and xylene.
6. The process of claim 1 further comprising carrying out step (a) in the presence of a mixed solvent system selected from the group consisting of a mixture of two or more of an alcohol, a ketone, an alkyl halide, an aromatic halide, an aliphatic ether, an aromatic ether, an aliphatic hydrocarbon, and an aromatic hydrocarbon.

7. The process of claim 6 wherein the mixed solvent system is selected from the group consisting of a mixture of methanol and toluene, methanol and xylene.
8. The process of claim 1 wherein the alkaline ingredient is employed in the amount of about 0.8 to about 50 moles per mole of morphine in the morphine component.
9. The process of claim 1 wherein the methylating agent employed in step (b) is selected from the group consisting of quaternary ammonium halides and quaternary ammonium alkoxides.
10. The process of claim 1 wherein the methylating agent comprises a phenyltrimethylammonium salt.
11. The process of claim 1 wherein the methylating agent is employed in an amount of about 0.8 to about 2.5 moles per mole of morphine in the morphine component.
12. The process of claim 1 wherein the codeine is recovered as the free base or as an acid addition salt.
13. The process of claim 12 wherein the acid addition salt is selected from the group consisting of inorganic and organic acids.
14. The process of claim 13 wherein the acid addition salt is selected from the group consisting of phosphate, hydrochloride, sulfate, acetate, bitartrate, and fumarate.
15. The process for the preparation of codeine, which comprises the steps of:
 - (a) providing a solution or suspension of a morphine component in an inert solvent or a mixture of solvents;
 - (b) methylating the resultant solution or suspension with a methylating agent in the presence of an alkaline ingredient wherein the alkaline ingredient employed comprises an alkali metal phosphate; and

- (c) recovering the resultant codeine as the free base or as a salt.
16. The process according to claim 15, wherein the alkaline ingredient further comprises an alkali metal acetate and an alkali metal halide.
17. A process for the preparation of codeine, which comprises the steps of:
- (a) providing a solution or suspension of a morphine component in an inert solvent or a mixture of solvents;
 - (b) methylating the resultant solution or suspension with a methylating agent in the presence of an alkaline ingredient wherein the alkaline ingredient is selected from the group consisting of tribasic sodium phosphate, tribasic potassium phosphate, potassium dihydrogen phosphate, potassium hydrogenphosphate, sodium acetate, potassium acetate, sodium fluoride, and potassium fluoride; and
 - (c) recovering the resultant codeine as the free base or as a salt.
18. The process of claim 17 wherein the alkaline ingredient is employed in the amount of about 0.8 to about 50 moles per mole of morphine in the morphine component.
19. The process of claim 17 wherein the methylating agent employed in step (b) is selected from the group consisting of quaternary ammonium halides and quaternary ammonium alkoxides.
20. The process of claim 19 wherein the methylating agent comprises a phenyltrimethylammonium salt.
21. The process of claim 17 wherein the methylating agent is employed in an amount of about 0.8 to about 2.5 moles per mole of morphine in the morphine component.

22. The process of claim 17 wherein the codeine is recovered as the free base or as an acid addition salt.
23. The process of claim 22 wherein the acid addition salt is selected from the group consisting of inorganic and organic acids.
24. The process of claim 22 wherein the acid addition salt is selected from the group consisting of phosphate, hydrochloride, sulfate, acetate, bitartrate, and fumarate.
25. The process of claim 17 wherein the morphine component comprises a concentrate of poppy straw having a morphine content of about 50 to about 99 wt.%.
26. The process of claim 17 wherein the morphine component comprises a concentrate of poppy straw having an oripavine content of about 50 to about 99 wt.%.
27. The process of claim 17 further comprising carrying out step (a) in the presence of a single solvent system selected from the group consisting of an alcohol, a ketone, an alkyl halide, an aromatic halide, an aliphatic ether, an aromatic ether, an aliphatic hydrocarbon, and an aromatic hydrocarbon.
28. The process of claim 17 wherein the single solvent system is selected from the group consisting of methanol, ethanol, n-butanol, acetone, methylethylketone, cyclohexanone, dichloroethane, chlorobenzene, t-butylmethyl ether, anisole, hexane, cyclohexane, toluene and xylene.
29. The process of claim 17 further comprising carrying out step (a) in the presence of a mixed solvent system selected from the group consisting of a mixture of two or more of an alcohol, a ketone, an alkyl halide, an aromatic halide, an aliphatic ether, an aromatic ether, an aliphatic hydrocarbon, and an aromatic hydrocarbon.

30. The process of claim 29 wherein the mixed solvent system is selected from the group consisting of a mixture of methanol and toluene, methanol and xylene.